



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,908	03/09/2004	David Alsop	B0662.70046US01	1644

7590 07/13/2005

James H. Morris
Wolf, Greenfield & Sacks, P.C.
Federal Reserve Plaza
600 Atlantic Avenue
Boston, MA 02210

EXAMINER

VARGAS, DIXOMARA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/796,908

Applicant(s)

ALSOR, DAVID

Examiner

Dixomara Vargas

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 03/09/04.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 03/09/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –n

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-20 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Pruessmann et al. (US 6,252,399).

With respect to claim 1, Pruessmann discloses a method for conducting an MR fluid flow study, said method comprising (Column 6, lines 20-23): applying a first amplitude modulated magnetic field gradient to a predetermined volume of said fluid flowing into a region of interest; applying a first amplitude modulated RF irradiation to the predetermined volume (Column 2,

Art Unit: 2859

lines 30-57); acquiring first data for at least a portion of the region of interest (Column 6, line 20, wherein the first data of the region of interest is the data of the first slice); applying a second RF irradiation to the predetermined volume of said fluid (Columns 4 and 5, lines 45—67 and 1-5 respectively); acquiring second data for the at least a portion of the region of interest (Column 6, lines 20-23, wherein the second data of the region of interest is the data of the second slice); and generating compensated fluid flow data for the at least a portion of the region of interest, wherein the fluid flow data is a function of at least the first data and the second data (Column 3, lines 20-28).

4. With respect to claim 2, Pruessmann discloses the second RF irradiation is amplitude modulated (Column 4, lines 61-67).

5. With respect to claims 3, 15, 28 and 39, Pruessmann discloses an envelope for the amplitude modulation of the first RF irradiation is an absolute value of an envelope for the amplitude modulation of the second RF irradiation (Columns 4 and 5, lines 45-67 and 1-5 respectively).

6. With respect to claims 4, 13, 29 and 41, Pruessmann discloses an average amplitude for the first RF irradiation is not zero (Column 5, lines 6-20).

7. With respect to claims 5, 14, 30 and 42, Pruessmann discloses the average amplitude for the first RF irradiation is above zero (Column 5, lines 6-20).

8. With respect to claim 6, Pruessmann discloses the average amplitude for the first RF irradiation is below zero (Column 5, lines 6-20)

9. With respect to claims 7, 31 and 43, Pruessmann discloses an average amplitude for the second RF irradiation is zero (Column 5, lines 6-20).

Art Unit: 2859

10. With respect to claims 8 and 16, Pruessmann discloses applying a second amplitude modulated magnetic field gradient to the predetermined volume of said fluid (Column 5, lines 21-36).

11. With respect to claims 9 and 18, Pruessmann discloses an envelope for the amplitude modulation of the second RF irradiation is similar to an envelope for the amplitude modulation of the second magnetic field (Column 4, lines 45-67).

12. With respect to claims 10, 33, 35, 44 and 46, Pruessmann discloses the second RF irradiation is frequency modulated (Columns 4 and 5, lines 45-67 and 1-5 respectively).

13. With respect to claims 11, 34, 36, 45 and 47, Pruessmann discloses an envelope for frequency modulation of the second RF irradiation is similar to an envelope for amplitude modulation of the second RF irradiation (Columns 4 and 5, lines 45-67 and 1-5 respectively).

14. With respect to claims 12, 20, 32 and 40, Pruessmann discloses an envelope for amplitude modulation of the second RF irradiation is a modified square wave (Pruessmann's sincgauss function is a square wave function and is defined by the equation #10; Column 5, lines 6-20).

15. With respect to claim 17, Pruessmann discloses an envelope for amplitude modulation of the first RF irradiation is similar to an envelope for amplitude modulation of the first magnetic field gradient (Columns 4 and 5, lines 45-67 and 1-5 respectively).

16. With respect to claim 19, Pruessmann discloses an envelope for amplitude modulation of the first magnetic field gradient is an absolute function of an envelope for amplitude modulation of the second magnetic field gradient (Columns 4 and 5, lines 45-67 and 1-5 respectively).

Art Unit: 2859

17. With respect to claim 23, Pruessmann discloses a second RF irradiation has a frequency offset (Column 5, lines 2-36).

18. With respect to claim 24, Pruessmann discloses the frequency offset is small compared to frequency of the second RF irradiation (Column 5, lines 2-36).

19. With respect to claims 25, 37 and 38, see rejection of claims 1 and 17 (paragraphs 4 and 16) above.

20. With respect to claims 26 and 27, Pruessmann discloses the compensating for at least the magnetization transfer effects is performed in a context of MR study (Abstract).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 21, 22 and 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pruessmann et al. (US 6,252,399) in view of Berr et al. (US 6,271,665).

With respect to claim 21, Pruessmann discloses the invention as stated above in paragraph 3 except for the step of generating a fluid flow image, wherein generating the fluid flow image comprises subtracting the first fluid flow data from the second fluid flow data. However, Berr discloses the step of subtracting the first data/image from the second data/image (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Berr's step of subtracting the first data from the second data in

Art Unit: 2859

Pruessmann's method for conducting an MR study for the purpose of correcting the image from the image artifacts produced by suppressing the error cause by the image ghosting or any other type of image artifact.

23. With respect to claims 22 and 49-50, Pruessmann discloses the invention as stated above in paragraph 3 except for the step of subtracting a representation of a systematic error from the fluid flow image. However, Berr discloses the step of subtracting the first data/image from the second data/image (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Berr's step of subtracting the first data from the second data in Pruessmann's method for conducting an MR study for the purpose of obtaining a better quality image by correcting the image from the image artifacts produced with suppression of the errors cause by the image ghosting or any other type of image artifact.

24. With respect to claim 48, see rejection of claims 21 and 25 (paragraphs 21 and 24) above.

Double Patenting

25. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2859

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

26. Claims 1-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of U.S. Patent No. US 6,717,405. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-50 of the present invention are generic with respect to the patented claim 1-54 of the US Patent No. US 6,717,405. A species claim anticipates a generic claim; therefore, the patented claim anticipates the examined claim. See MPEP 806.04 (i).

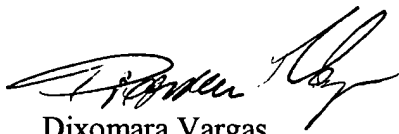
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on Monday to Thursday from 8:00 am. to 4:30 pm..

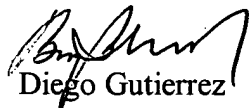
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dixomara Vargas
Art Unit 2859
July 07, 2005



Diego Gutierrez 7.11.05
Supervisory Patent Examiner
Technology Center 2800